

Claims

1) (Previously Presented) A surgical instrument handle comprising:

an elongate rod having a center axis that defines mutually perpendicular axial and radial directions, the rod having a length with axially opposite proximal and distal ends; the rod distal end being adapted to be attached to a surgical instrument head;

a piston mounted on the rod adjacent the rod distal end wherein the piston is adapted to have axially reciprocating movement toward and away from the rod distal end;

a forward grip member mounted on the rod wherein the forward grip member is adapted to have axial movement between first and second positions of the forward grip member relative to the rod, the forward grip member having a plurality of resilient arms that extend along the rod, the plurality of arms having distal ends that operatively engage with the piston whereby manual movement of the arm distal ends radially inwardly moves the piston axially toward the rod distal end and movement of the piston axially away from the rod distal end moves the arm distal ends radially outwardly, there being a first radial spacing between the arm distal ends when the forward grip member is in the first position relative to the rod, and there being a second radial spacing between the arm distal ends when the forward grip member is in the second position relative to the rod, the second radial spacing being larger than the first radial spacing.

2) (Previously Presented) A surgical instrument handle that is removably attachable to a surgical instrument head, the surgical instrument handle comprising:

 a cylindrical base having a length with opposite proximal and distal ends, the base proximal end having external and internal screw threading;

 an elongate rod having opposite proximal and distal ends, the rod proximal end being secured to the base distal end, the rod distal end having a connector adapted for removably attaching a surgical instrument head to the connector, the connector having a center bore through the connector, and the rod distal end having a slot through the rod distal end adjacent the connector;

 a piston received in the slot at the rod distal end wherein the piston is adapted to have reciprocating movement of the piston in the slot, the piston having a proximal end positioned in the slot and the piston having a distal end that projects through the connector center bore;

 a ring mounted on the rod for sliding movement of the ring over the rod, the ring engaging with the piston proximal end;

 a piston stop mounted on the rod in a position on the rod where the piston stop will engage with the ring and prevent further sliding of the ring toward the rod proximal end;

 a forward grip member mounted on the base distal end wherein the forward grip is adapted to have limited reciprocating movement of the forward grip member on the base distal end, the forward grip member having a plurality of resilient arms that are circumferentially arranged around the rod and project from the base along

the rod, the plurality of resilient arms having distal ends, the distal ends of the resilient arms engaging with the ring; and,

a rearward grip member having an interior bore with internal screw threading that mates with the external screw threading of the base, whereby turning the rearward grip member in a first direction causes the rearward grip member to move toward the rod distal end and push the forward grip member to move toward the rod distal end and causes the distal ends of the forward grip member resilient arms to move over the ring and move circumferentially outwardly away from the rod, and turning the rearward grip member in a second direction causes the rearward grip member to move away from the rod distal end and allows the distal ends of the resilient arms to move over the ring and move circumferentially inwardly toward the rod pushing the forward grip member to move away from the rod distal end.

3) (Previously Presented) A surgical instrument handle comprising:

an elongate rod having a center axis that defines mutually perpendicular axial and radial directions, the rod having a length with axially opposite proximal and distal ends; the rod distal end being adapted to be attached to a surgical instrument head;

a piston mounted on the rod adjacent the rod distal end wherein the piston is adapted to have axially reciprocating movement of the piston toward and away from the rod distal end;

a forward grip member operatively connected with the rod wherein the forward grip member is adapted to have axial movement between first and second positions of the forward grip member relative to the rod;

a plurality of resilient arms integrally connected with the forward grip member and operatively connected with the piston whereby manual movement of the arms radially inwardly moves the piston axially toward the rod distal end, and movement of the piston axially away from the rod distal end moves the arms radially outwardly, there being a first radial spacing between the arms when the forward grip member is in the first position relative to the rod, and there being a second radial spacing between the arms when the forward grip member is in the second position relative to the rod, the second radial spacing being larger than the first radial spacing.

4) (Original) The handle of claim 3, further comprising:

the rod distal end having a connector that attaches the rod to a surgical instrument head.

5) (Original) The handle of claim 4, further comprising:

the rod connector being adapted for removably attaching the surgical instrument head to the connector.

6) (Original) The handle of claim 4, further comprising:

the connector having a center bore through the connector; and,

the piston having opposite proximal and distal ends, the piston distal end extending through the connector center bore.

7) (Previously Presented) The handle of claim 6, further comprising:

the rod distal end having a slot adjacent the connector; and
the piston proximal end being positioned in the slot wherein the piston proximal end is adapted to have reciprocating movement of the piston proximal end in the slot and reciprocating movement of the piston distal end in the connector bore.

8) (Previously Presented) A surgical instrument handle comprising:

an elongate rod having a center axis that defines mutually perpendicular axial and radial directions, the rod having a length with axially opposite proximal and distal ends; the rod distal end being adapted to be attached to a surgical instrument head;

a piston mounted on the rod adjacent the rod distal end wherein the piston is adapted for axially reciprocating movement of the piston toward and away from the rod distal end;

a forward grip member operatively connected with the rod wherein the forward grip member is adapted for axial movement between first and second positions of the forward grip member relative to the rod;

a plurality of resilient arms operatively connected with the forward grip member and operatively connected with the piston whereby manual movement of the arms radially inwardly moves the piston axially toward the rod distal end, and movement

of the piston axially away from the rod distal end moves the arms radially outwardly, there being a first radial spacing between the arms when the forward grip member is in the first position relative to the rod, and there being a second radial spacing between the arms when the forward grip member is in the second position relative to the rod, the second radial spacing being larger than the first radial spacing; and,

 a ring mounted on the rod wherein the ring is adapted to have reciprocating movement of the ring toward the rod proximal end and toward the rod distal end, the ring engaging with the piston.

9) (Original) The handle of claim 8, further comprising:

 the ring having a sliding surface; and,
 the plurality of resilient arms engaging with the ring sliding surface for sliding movement of the arms on the sliding surface when the ring moves toward the rod proximal end and when the ring moves toward the rod distal end, the plurality of resilient arms moving between the first radial spacing between the arms and the second radial spacing between the arms in response to the sliding movement of the arms on the ring sliding surface.

10) (Previously Presented) The handle of claim 8, further comprising:

 the plurality of arms extending from the forward grip member along the rod, the plurality of arms having distal ends that engage with the ring, the axial movement of the forward grip member relative to the rod moving the distal ends of the arms relative to the rod and the ring.

11) (Original) The handle of claim 10, further comprising:
a rearward grip member operatively connected to the rod for movement of
the rearward grip member toward the rod distal end and away from the rod distal end,
the rearward grip member being operatively connected with the forward grip member to
cause the axial movement of the forward grip member relative to the rod in response to
the movement of the rearward grip member toward the rod distal end and away from the
rod distal end.

12) (Previously Presented) The handle of claim 3, further comprising:
the plurality of arms extending from the forward grip member along the
rod, the plurality of arms having distal ends that operatively engage with the piston, the
axial movement of the forward grip member relative to the rod moving the distal ends of
the arms relative to the rod.

13) (Original) The handle of claim 12, further comprising:
the plurality of arms being circumferentially arranged around the rod and
the piston.

14) (Previously Presented) The handle of claim 12, further comprising:
a rearward grip member operatively connected to the rod wherein the
rearward grip member is adapted to have movement of the rearward grip member
toward the rod distal end and away from the rod distal end, the rearward grip member

being operatively connected with the forward grip member to cause the axial movement of the forward grip member relative to the rod in response to the movement of the rearward grip member toward and away from the rod distal end.